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**RAW SEQUENCE LISTING  
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Re: **BIOTECHNOLOGY  
SYSTEMS  
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Application Serial Number: 09/689,159

Source: 1647

Date Processed by STIC: 5/31/2002

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PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

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Revised 01/29/2002



1647

## RAW SEQUENCE LISTING

DATE: 05/31/2002

PATENT APPLICATION: US/09/689,159

TIME: 08:30:24

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\05312002\I689159.raw

PP. 6, 7-10

3 <110> APPLICANT: St. George-Hyslop, Peter  
 4 Rommens, Johanna  
 5 Fraser, Paul  
 7 <120> TITLE OF INVENTION: GENETIC SEQUENCES AND PROTEINS RELATED TO ALZHEIMER'S  
 DISEASE  
 9 <130> FILE REFERENCE: 1034/1F808US7  
 11 <140> CURRENT APPLICATION NUMBER: US 09/689,159  
 12 <141> CURRENT FILING DATE: 2000-10-12  
 14 <150> PRIOR APPLICATION NUMBER: US 08/509,359  
 15 <151> PRIOR FILING DATE: 1995-07-31  
 17 <160> NUMBER OF SEQ ID NOS: 183  
 19 <170> SOFTWARE: PatentIn version 3.0  
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 22 <211> LENGTH: 2791  
 23 <212> TYPE: DNA  
 24 <213> ORGANISM: Homo sapiens  
 26 <220> FEATURE:  
 27 <221> NAME/KEY: misc\_feature  
 28 <222> LOCATION: (1)..(2791)  
 29 <223> OTHER INFORMATION: where n may be either a or g or c or t/u, unknown or other  
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 35 gaaggaacct gagctacgag ccgcggcgcc agcggggcgg cggggnaagc gtatacctaa 120  
 37 tctgggagcc tgcaagtgc aacagccttt gcggtcctta gacagcttgg cctggaggag 180  
 39 aacacatgaa agaaagaacc tcaagaggct ttgttttctg tgaacagta tttctataca 240  
 41 gttgctccaa tgacagagtt acctgcaccg ttgtcctact tccagaatgc acagatgtct 300  
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Does Not Comply  
Corrected Diskette Needed

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/689,159

DATE: 05/31/2002

TIME: 08:30:24

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\05312002\I689159.raw

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142 35 40 45
144 Pro Leu Ser Asn Gly Arg Pro Gln Gly Asn Ser Arg Gln Val Val Glu
145 50 55 60
147 Gln Asp Glu Glu Glu Asp Glu Glu Leu Thr Leu Lys Tyr Gly Ala Lys
148 65 70 75 80
150 His Val Ile Met Leu Phe Val Pro Val Thr Leu Cys Met Val Val Val
151 85 90 95
153 Val Ala Thr Ile Lys Ser Val Ser Phe Tyr Thr Arg Lys Asp Gly Gln
154 100 105 110
156 Leu Ile Tyr Thr Pro Phe Thr Glu Asp Thr Glu Thr Val Gly Gln Arg
157 115 120 125
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160 130 135 140
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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/689,159

DATE: 05/31/2002

TIME: 08:30:24

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\05312002\I689159.raw

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169          180          185          190
171 Val Asp Tyr Ile Thr Val Ala Leu Leu Ile Trp Asn Leu Gly Val Val
172          195          200          205
174 Gly Met Ile Ser Ile His Trp Lys Gly Pro Leu Arg Leu Gln Gln Ala
175          210          215          220
177 Tyr Leu Ile Met Ile Ser Ala Leu Met Ala Leu Val Phe Ile Lys Tyr
178 225          230          235          240
180 Leu Pro Glu Trp Thr Ala Trp Leu Ile Leu Ala Val Ile Ser Val Tyr
181          245          250          255
183 Asp Leu Val Ala Val Leu Cys Pro Lys Gly Pro Leu Arg Met Leu Val
184          260          265          270
186 Glu Thr Ala Gln Glu Arg Asn Glu Thr Leu Phe Pro Ala Leu Ile Tyr
187          275          280          285
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190          290          295          300
192 Ala Gln Arg Arg Val Ser Lys Asn Ser Lys Tyr Asn Ala Glu Ser Thr
193 305          310          315          320
195 Glu Arg Glu Ser Gln Asp Thr Val Ala Glu Asn Asp Asp Gly Gly Phe
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198 Ser Glu Glu Trp Glu Ala Gln Arg Asp Ser His Leu Gly Pro His Arg
199          340          345          350
201 Ser Thr Pro Glu Ser Arg Ala Ala Val Gln Glu Leu Ser Ser Ser Ile
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204 Leu Ala Gly Glu Asp Pro Glu Glu Arg Gly Val Lys Leu Gly Leu Gly
205          370          375          380
207 Asp Phe Ile Phe Tyr Ser Val Leu Val Gly Lys Ala Ser Ala Thr Ala
208 385          390          395          400
210 Ser Gly Asp Trp Asn Thr Thr Ile Ala Cys Phe Val Ala Ile Leu Ile
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213 Gly Leu Cys Leu Thr Leu Leu Leu Leu Ala Ile Phe Lys Lys Ala Leu
214          420          425          430
216 Pro Ala Leu Pro Ile Ser Ile Thr Phe Gly Leu Val Phe Tyr Phe Ala
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222 Phe Tyr Ile

223 465

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227 &lt;212&gt; TYPE: DNA

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230 &lt;220&gt; FEATURE:

231 &lt;221&gt; NAME/KEY: misc\_feature

232 &lt;222&gt; LOCATION: (1)..(1929)

233 &lt;223&gt; OTHER INFORMATION: where n may be either a or g or c or t/u, unknown or other

236 &lt;400&gt; SEQUENCE: 3

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/689,159

DATE: 05/31/2002

TIME: 08:30:24

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\05312002\I689159.raw

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 239 agagaaggaa ccaacacaag acagcagccc ttcgaggtct ttaggcagct tggaggagaa 120  
 241 cacatgagag aaagaatccc aagaggtttt gttttctttg agaaggtatt tctgtccagc 180  
 243 tgctccaatg acagagatac ctgcaccttt gtctacttcc cagaatgccc agatgtctga 240  
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 247 gcatgacagg cagagacttg acaacctga gccaatatct aatgggcggc cccagagtaa 360  
 249 ctcaagacag gtggtggaac aagatgagga ggaagacgaa gagctgacat tgaaatatgg 420  
 251 agccaatcat gtcattcatg tctttgtccc cgtgaccttc tgcatggctg tcgtcgtggc 480  
 253 caccatcaaa tcagtcagct tctatacccg gaaggacggt cagctaattct acacccatt 540  
 255 cacagaagac actgagactg taggccaag agccctgcac tcgactctga atgcggccat 600  
 257 catgatcagt gtcattgtca ttatgacct cctcctggtg gtctgtata aatacagggtg 660  
 259 ctacaagggtc atccacgctt ggcttattat ttcatctctg ttgttgctgt tctttttttc 720  
 261 gttcattttac ttagggggaag tatttaagac ctacaatgtc kccgtggact acgttacagt 780  
 263 agcactccta atctggaatt ggggtgtggt cgggatgatt gccatccact ggaaaggccc 840  
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RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/689,159

DATE: 05/31/2002  
 TIME: 08:30:24

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 Output Set: N:\CRF3\05312002\I689159.raw

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332	His	Val	Ile	Met	Leu	Phe	Val	Pro	Val	Thr	Leu	Cys	Met	Val	Val	Val
333					85					90						95
335	Val	Ala	Thr	Ile	Lys	Ser	Val	Ser	Phe	Tyr	Thr	Arg	Lys	Asp	Gly	Gln
336					100				105					110		
338	Leu	Ile	Tyr	Thr	Pro	Phe	Thr	Glu	Asp	Thr	Glu	Thr	Val	Gly	Gln	Arg
339			115					120					125			
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342		130					135					140				
344	Ile	Met	Thr	Ile	Leu	Leu	Val	Val	Leu	Tyr	Lys	Tyr	Arg	Cys	Tyr	Lys
345	145					150					155					160
347	Val	Ile	His	Ala	Trp	Leu	Ile	Ile	Ser	Ser	Leu	Leu	Leu	Leu	Phe	Phe
348					165					170						175
W--> 350	Phe	Ser	Phe	Ile	Tyr	Leu	Gly	Glu	Val	Phe	Lys	Thr	Tyr	Asn	Val	Xaa
351					180				185					190		
353	Val	Asp	Tyr	Val	Thr	Val	Ala	Leu	Leu	Ile	Trp	Asn	Trp	Gly	Val	Val
354			195					200					205			
356	Gly	Met	Ile	Ala	Ile	His	Trp	Lys	Gly	Pro	Leu	Arg	Leu	Gln	Gln	Ala
357		210					215					220				
359	Tyr	Leu	Ile	Met	Ile	Ser	Ala	Leu	Met	Ala	Leu	Val	Phe	Ile	Lys	Tyr
360	225					230					235					240
362	Leu	Pro	Glu	Trp	Thr	Ala	Trp	Leu	Ile	Leu	Ala	Val	Ile	Ser	Val	Tyr
363					245					250					255	
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366			260						265					270		
368	Glu	Thr	Ala	Gln	Glu	Arg	Asn	Glu	Thr	Leu	Phe	Pro	Ala	Leu	Ile	Tyr
369			275					280					285			
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374	Ala	Gln	Arg	Arg	Val	Pro	Lys	Asn	Pro	Lys	Tyr	Asn	Thr	Gln	Arg	Ala
375	305					310					315					320
377	Glu	Arg	Glu	Thr	Gln	Asp	Ser	Gly	Ser	Gly	Asn	Asp	Asp	Gly	Gly	Phe
378					325					330					335	
380	Ser	Glu	Glu	Trp	Glu	Ala	Gln	Arg	Asp	Ser	His	Leu	Gly	Pro	His	Arg
381			340						345				350			
383	Ser	Thr	Pro	Glu	Ser	Arg	Ala	Ala	Val	Gln	Glu	Leu	Ser	Gly	Ser	Ile
384			355					360					365			
386	Leu	Thr	Ser	Glu	Asp	Pro	Glu	Glu	Arg	Gly	Val	Lys	Leu	Gly	Leu	Gly
387		370					375					380				
389	Asp	Phe	Ile	Phe	Tyr	Ser	Val	Leu	Val	Gly	Lys	Ala	Ser	Ala	Thr	Ala
390	385					390					395					400
W--> 392	Ser	Gly	Asp	Trp	Asn	Thr	Thr	Ile	Ala	Cys	Xaa	Val	Ala	Ile	Leu	Ile
393					405					410					415	
W--> 395	Gly	Leu	Cys	Leu	Xaa	Leu	Leu	Leu	Leu	Ala	Ile	Tyr	Lys	Lys	Gly	Xaa
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W--> 398	Pro	Ala	Xaa	Pro	Ile	Ser	Ile	Thr	Phe	Gly	Phe	Val	Phe	Xaa	Phe	Ala
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RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/689,159

DATE: 05/31/2002  
TIME: 08:30:25

Input Set : A:\Seqlist.txt  
Output Set : N:\CRF3\05312002\I689159.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

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Seq#:5; N Pos. 360  
Seq#:6; N Pos. 4,8,23,42,45,60,68,174,182,239,383,488,525,939  
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Seq#:15; N Pos. 7,28,76,94,97,101,154,159,161,174  
Seq#:16; N Pos. 29,35,48,52,59,66,93,116,123,125,130,144,147,149,155,160  
Seq#:16; N Pos. 162,181,185,200,208,216,223,224,227,230,234,240,245,257,263  
Seq#:16; N Pos. 274,279,283,293,297,303,304,312,315,329,336,356,384,386,391  
Seq#:16; N Pos. 394,402,403,409,416,424,427,452  
Seq#:17; N Pos. 49,50,54,73,77,79,103,134,142,148,157,175,234,241,299,311  
Seq#:17; N Pos. 358,366  
Seq#:18; N Pos. 10,64,75,100,125,132,162,168,235,290,326,351  
Seq#:19; N Pos. 204,221,238,241,313,333,335,339,343,364,370,377  
Seq#:20; N Pos. 5,15,26,28,47,70,104,108,122,124,156,182,184,194,203,217  
Seq#:20; N Pos. 225,240,286,315,321,326  
Seq#:21; N Pos. 31,37,41,43,47,71,88,98,101,115,119,128,135,138,140,144,147  
Seq#:21; N Pos. 157,160,163,166,168,169,182,186,205,207,215,224,245,284,312  
Seq#:21; N Pos. 358  
Seq#:22; N Pos. 18,100,134,139,173,237,319,321,351,352,354,359,376,379,384  
Seq#:22; N Pos. 391,401  
Seq#:24; N Pos. 33,60,104,113,141,156,173,182,219,239,285,289,331,337,358  
Seq#:25; N Pos. 105,107,148,211,235,255,264,269,274,281,302,327,336,350,363  
Seq#:25; N Pos. 399,412  
Seq#:26; N Pos. 46,79,110,116,185,191,462,671,699  
Seq#:27; N Pos. 34,197,215,235,273,307,314,333,395,408,412,436,448  
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Seq#:30; N Pos. 292,305,326  
Seq#:31; N Pos. 17,65,81,98,165,172,176,205,223,260,272,296,307,311,316,335  
Seq#:32; N Pos. 210,236,287,339,360,361,362,366,387,389,390,391,394,420,421  
Seq#:32; N Pos. 427,442,460,466



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Output Set : N:\CRF3\05312002\I689159..raw

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Seq#:34; N Pos. 369,374,382,387,408,410,425  
Seq#:35; N Pos. 22,83,205  
Seq#:36; N Pos. 135,138,145,150,162,180,196,200,243,250,311,319,347,359,366  
Seq#:36; N Pos. 374,393  
Seq#:37; N Pos. 24,52,81,83,105,121,129,132,147,158,183,209,219,226,257,275  
Seq#:37; N Pos. 301,316  
Seq#:38; N Pos. 177,349,374,492,552,558,561,585,643,650,666,675,706,718,732  
Seq#:38; N Pos. 740,746,756  
Seq#:39; N Pos. 19,48,49,52,57,62,77,81,107,111,113,116,123,144,154,175,181  
Seq#:39; N Pos. 182,186,189,190,197,198,209,211,213,216,219,222,234,244,263  
Seq#:39; N Pos. 265,268,274,278,288,294,295,299,303,305,324  
Seq#:40; N Pos. 17,40,65,119,160,177,233,268,297,367,376,381,408  
Seq#:41; N Pos. 34,52,62,71,75,103,110,145,186,215,218,232,243,251  
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Seq#:45; N Pos. 52,133,160,284,371,373,383,389,390,406,419  
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Seq#:47; N Pos. 325,335,354,357,369,375,422,446,471,479,483  
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Seq#:49; N Pos. 64,110,117,170,257,306,315,330,336,353,365  
Seq#:50; N Pos. 19,64,163,225,283,301,373,409,440,443,453,471,475,482,484  
Seq#:51; N Pos. 58,59  
Seq#:52; N Pos. 204  
Seq#:53; N Pos. 8,69,125,126,177,265,314,338,361  
Seq#:54; N Pos. 213,225,240,248,260,296,318,330,368,402,494,500,514,518  
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Seq#:56; N Pos. 40,166,253,377,379,383,402,418,437,451,484  
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Seq#:61; N Pos. 356,358,363  
Seq#:62; N Pos. 11,116,260,317,325,361,431,439,445,457,476,491,495  
Seq#:63; N Pos. 13,262,319,433,456  
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Seq#:65; N Pos. 199,223,233,238,256,282,291  
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Output Set: N:\CRF3\05312002\I689159.raw

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Seq#:76; N Pos. 52,94,104,304,325,401,448  
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Seq#:79; N Pos. 49,236,270,434,443,490  
Seq#:80; N Pos. 14,285,407,472  
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Seq#:82; N Pos. 33,53,72,81,83,87,124,188,191,233,367,401,416,422,424,439  
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Seq#:83; N Pos. 54,75,257,295,333,386,409,411,414,447  
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Seq#:90; N Pos. 12,20,24,124,155,262,293,299,374,392,419,426,431,458,467  
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Seq#:92; N Pos. 109  
Seq#:93; N Pos. 30,479,484  
Seq#:94; N Pos. 53,145,204,260,266,283,305,318,337,339,342,360,364  
Seq#:95; N Pos. 25,26,77,78,142,164,166,179,232,264,277,295,310  
Seq#:96; N Pos. 6,25,33,68,123,131,165,183,201,202,227,267,273,282,304,309  
Seq#:96; N Pos. 310,315,319,326,342,347,362,367,370,371  
Seq#:97; N Pos. 47,149,182,249,250,277,280,340,345  
Seq#:98; N Pos. 25,159,162,165,196  
Seq#:99; N Pos. 282,369,374,421  
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Seq#:102; N Pos. 84,146,240,335,414  
Seq#:103; N Pos. 144,171,172,217,219,270,315,352,353,358,359,362,369  
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Seq#:108; N Pos. 216,419,471  
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Seq#:113; N Pos. 8,11,12,13,14,15,20,21,44  
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Seq#:114; N Pos. 196,198,211,214,217,219,220,221,225,227,230,231,234,239

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Seq#:119; N Pos. 2  
Seq#:120; N Pos. 11,18,55,67,72,132  
Seq#:121; N Pos. 170  
Seq#:122; N Pos. 130,143,152,153,158,164,230,262,272,316,343,349,374,417  
Seq#:123; N Pos. 11,35,155,336,402,435,441,443  
Seq#:124; N Pos. 119,123,164,178,186,212,261,304,318,322,332,348,351,364  
Seq#:125; N Pos. 52,133  
Seq#:135; N Pos. 5,9  
Seq#:136; Xaa Pos. 192,411,421,432,435,446  
Seq#:137; N Pos. 2137,2144,2152,2157,2160,2163,2180,2203,2213,2216,2225  
Seq#:150; N Pos. 12,532,576,592,626,634,643,777,805,808,811,877,909,919,963  
Seq#:150; N Pos. 990,996,1021,1064  
Seq#:151; N Pos. 94,159,172,254,268,276,385,676  
Seq#:152; N Pos. 263,297,302,312,320,346,355,572,843,890,914,931,991,1119  
Seq#:152; N Pos. 1184,1314,1331,1359,1362,1370,1418,1479,1509,1587,1592  
Seq#:152; N Pos. 1598,1601,1612,1652,1668,1704,1711  
Seq#:153; N Pos. 2,26,28,64,65,85,329,605,777,824,833,1031,1104,1151,1218  
Seq#:153; N Pos. 1238,1239,1300,1650,1798,1810,1834,1844  
Seq#:154; N Pos. 121,138,161,165,181,239,295,662,744,747,748,751,898,903  
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Seq#:156; N Pos. 144,145,157,168,171,172,217,219,270,315,347,356,357,363  
Seq#:156; N Pos. 364,367,372,374,529,536,676,681,755,804,822,916,929,987  
Seq#:156; N Pos. 1004,1014,1067,1094,1116  
Seq#:157; N Pos. 97,122,190,191,192,307,327,448,474,479,495,498,519,522,538  
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Seq#:158; N Pos. 434,435  
Seq#:159; N Pos. 22,26,44,47,49,68,81,104,107,119,125,131,137,150,184,188  
Seq#:159; N Pos. 237,248,250,252,274,338,339,340,524,525,562,591,629,659  
Seq#:159; N Pos. 666,691,763,776,789,799,807  
Seq#:160; N Pos. 4,8,23,42,45,60,68,174,182,239,383,488,525,939  
Seq#:179; N Pos. 20  
Seq#:181; N Pos. 13,16  
Seq#:182; N Pos. 14

Use of <220> Feature(NEW RULES):

Sequence(s) are missing the <220> Feature and associated headings.  
Use of <220> to <223> is MANDATORY if <213> ORGANISM is "Artificial Sequence" or "Unknown". Please explain source of genetic material in <220> to <223> section (See "Federal Register," 6/01/98, Vol. 63, No. 104, pp.29631-32) (Sec.1.823 of new Rules)

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Seq#:164,165,166,167,172,173,174,175,176,177,178,180,183

(These are errors in the Sequence Listing)

09/29/59

6

(sample of globul eva)

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<212> DNA

<213> Artificial Sequence

see p. 10

<400> 127

tggagactgg aacacaac

18